TTCN-3 CONFORMANCE TEST SUITE STF 433 STATUS REPORT

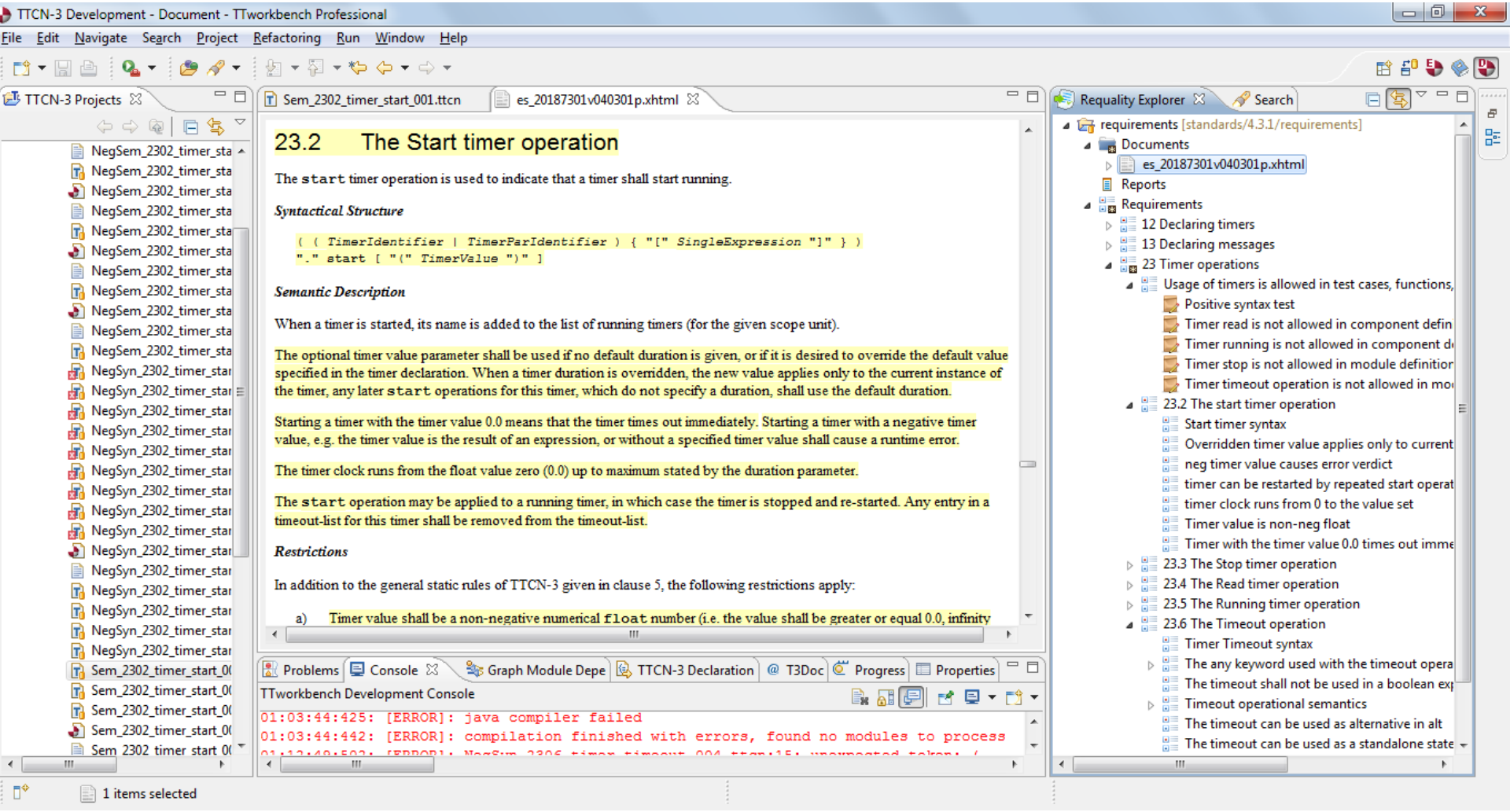
Requirements tracking case study

Andras Kovacs
Nikolay Pakulin
Bogdan Stanca-Kaposta

Requirements tracking case study

- ISP RAS contributed to the project requirements management tool **Requality**
  - Hierarchical grouping of requirements
  - Requirements elicitation from DOC/HTML documents
    - Requirements are connected to certain locations in the documents
    - Requirements locations are highlighted
  - Requirements refinement through test purposes
    - Test purposes define specific cases to be tested in order to treat corresponding requirement ‘covered’
  - Requirements coverage by test cases report
  - Source document change management (beta)
    - Update requirements when the text of the standard is modified
- Requality is an open-source plugin to eclipse
- Integrated with version control software (SVN)

Sample view: Requality in TTWorkbench



Case study in a nutshell

- Requirements elicitation
  - 4 chapters: 12 Declaring messages, 13 Declaring timers, 23 Timer operations, 24 Verdict operations; total 7,5 pages
  - 56 requirements elicited, 7 requirements refined into 34 test purposes; covered by 174 test cases
  - Average 7,5 requirements per page, 3 test cases per requirement
- Requirements tracking implemented via requirements references in test cases
  - Special comment in TTCN3 sources:
    // #reqname /Requirements/23 Timer operations/23.2 The start timer operation/Timer with the timer value 0.0 times out immediately.
  - Nikolay Pakulin (ISPRAS) implemented report generator to track requirements coverage

Suggested use case (ISPRAS)

- Add requirements markup to TTCN3 standard
  - Manual
- Introduce references between requirements and TTCN3 test cases
  - Manual
- Track requirements changes between TTCN3 standard revisions
  - Automated (beta)
- Track required changes in TTCN3 ATS
  - Manual, to be automated